Energy Commission Staff Summary
Comments Received on the Bionergy Action Plan
Public Meeting, June 11, 2007

Docket Number 06-BAP-1			
Organization Entity Commenting	***Barriers***	***Recommendations for action***	***Progress***
1. Michael Theroux, Theroux Environmental	Unclear guidelines exist between the California Energy Commission and California Integrated Waste Management Board on when a discarded resource becomes an energy "feedstock," not "waste."	Pre-processing municipal solid waste to produce a feedstock with 10% or less non-biomass contaminants should no longer be considered "waste" under state law, but becomes an eligible fuel under the Renewable Portfolio Standard.	At present, feedstock must contain less than 10% contaminants – a performance-driven standard. The same 10%-or-less feedstock standard holds for inert waste disposal.
	Municipalities can claim no more than a 10% diversion credit for converting biomass to energy. But composting or anaerobic digestion earns a 100% diversion credit.	For purposes of Landfill Diversion Credits, eliminate the current 10% cap on the use of clean, non-combustion thermal conversion of biomass into power or fuels. We should make the diversion for clean non-incineration thermal conversion equal to the credit available for composting and anaerobic digestion.	
	The definition of what crops qualify as "biomass" in the Renewable Portfolio Standard is ambiguous. "Purpose-grown energy crops" such as switch-grass are not specifically recognized as qualifying for conversion credit to biofuels or bioenergy.	Revise the Renewable Portfolio Standard definitions of "biomass" in the Overall Program Guidebook and in the Eligibility Guidebook to specifically include "dedicated biomass crops" as an eligible feedstock.	Definitions are being frequently upgraded.

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2. Brett Storey **Placer County Biomass Program Manager**	Woody biomass is considered to be a waste, not a resource. Wood, not corn, is the West's crop – we should use it.	• Keep wood waste out of landfills.	
	Forest biomass is not understood by the general public.	Create "Biomass for Dummies" or some simple process guide for interested parties.	We have an Action plan – continue to make progress on it.
	Biomass is not treated on the same level as other alternative energy sources when it comes to federal tax incentives.	• Streamline the permitting process. • Include the total societal benefit when considering new facilities. • Continue dollar and agency support for viable projects. • Provide biomass production tax credit parity with wind, solar and other alternative energy sources. • EPA regulations should count avoided emissions. (Allow carbon credits?).	Some agency and financial support now exists.
	Cellulose-to-ethanol conversion technology is not yet commercial.	Create more small public/private partnerships to encourage innovation.	Promote existing organizations. Put some funding in smaller demonstration partnerships that MAY be not-for-profit.

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2. Brett Storey **Placer County Biomass Program Manager** (continued)	Co-generation technology is just now evolving, becoming more sophisticated.	Create small public/private partnerships to encourage innovation.	A wide variety of designs are becoming available.
	Forest biomass is not profitable on its own.	• Give producers higher credit for using small-size woody biomass, allowing some cash logs to fund business. • Allow pruning after fires.	
3. Steve Brink, **VP, Public Resources** **California Forestry Association**	The California Biomass Collaborative won't have recommended actions until March 2008.	• Move more quickly.	"Preliminary Roadmap" does a good job of capturing benefits and barriers.
	U.S. Forest Service actions lead to denser forests. It is treating less than 0.3% of standing inventory yearly, creating increased fire dangers.	• Federal legislation is needed to effect policy changes that could produce 575,000 acres of fuels reduction or 7.5 million bone-dry tons of biomass, enough biomass to generate 900 megawatts.	Experimental forests show that revenue from commercial thinning can offset the costs of biomass removal for fuels reduction, offering FREE power plant fuel.
	Forest Service cannot operate well under conflicting statues and resulting lawsuits.	• California must work with federal government to legislate changes. Vegetative maintenance should be categorically excluded from the National Environmental Policy Act (NEPA).	

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3. Steve Brink, VP, Public Resources California Forestry Association (continued)	The social and environmental benefits of biomass are poorly captured.	Under current electric rate structures, 2-4 cents per kilowatt/hour are needed to offset processing/transportation costs of dry agriculture waste, clean wood waste and in-forest biomass.	• Documentation shows a pollutant reduction of 98% for biomass power plants over open burning. Western Governor's Task Force Report says benefits are greater than 11 cents per kilowatt/hour.
	Biomass needs subsidies to: • Upgrade existing power plants. • Attract investment in new plants. • Mitigate air quality issues like dust and upgrading diesel trucks and equipment.	Continue the current electric rate structures of 2-4 cents per kilowatt/hour.	The California Collaborative Roadmap lists items to do to promote the health of existing biomass plants and to generate investment in new infrastructure. It wisely recommends "re-establishment of PURPA SO4-type contracts."
	We need to overcome transportation and processing costs.		
4.California Department of Food and Agriculture (CDFA)	• More information is needed, research is ongoing. We need to compile and share data on feedstock crops.		We meet with interested organizations like San Joaquin Valley Partnership and the California Biomass Collaborative.

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4.California Department of Food and Agriculture (CDFA) (continued)	Water quality must be protected on agricultural and forest lands.		We are now working with the Energy Commission, State Water Resources Control Board and Department of Forestry.
	Need to develop better access to agricultural and forest biomass resources	Provide funding.	We are developing a plan with Forestry and Fire Protection. Report was due Dec. 31, 2006.
	We need to create regional biomass, manure management zones.	Provide funding.	We are working with San Joaquin Valley Partnership and Coordinated Energy Organization. Manure study prepared by Cal Poly San Luis Obispo is in review right now. Reports are due 6-30, 2007.
	Animal disposal and animal health remain biomass concerns.		The California Department of Food and Agriculture is currently working with the Biomass Collaborative, the Western Institute for Food Safety and Security (WIFSS), California Integrated Waste Management Board, and California Energy Commission. Results due June 30, 2007.
	Poor mechanisms are in place to buy and distribute on-farm produced power.		California Department of Food and Agriculture is tracking progress between PG&E and dairy industry.

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4.California Department of Food and Agriculture (CDFA) (continued)	We need to support biomass under the existing federal farm bill.		The California Department of Food and Agriculture is working with Congress and the National Association of State Departments of Agriculture. A strategy report is due 12-31-2006.
5. Robert Sawyer, Chair California Air Resources Board	California's reformulated gasoline regulations need to be amended to encourage biofuels.	•Preserve the emissions benefits of reformulated gasoline. •Update the California Predictive Model. •Favor the use of E-10 in the Predictive Model. •Mitigate permeation emissions from on road vehicles.	This item is scheduled for California Air Resources Board consideration June 14, 2007 Testing is underway to set basis for fuel specifications and to evaluate emissions.
	The state's ability to reduce GHG emissions through the use of biofuels and biomass is unclear.	•Clearly establish the goal to reduce carbon intensity of transportation fuel by 10% by 2020. •Assess the Greenhouse Gas benefits of fuel production and use. •Address multi-media impacts, emissions performance, costs and supply issues.	The California Air Resources Board plans to develop a low-carbon fuel standard by the end of 2008. Tthe AB 1007 report is a critical first step; it incorporates the SCB/UCD study on technical and policy issues and includes draft compliance schedules.

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5. Robert Sawyer, Chair California Air Resources Board (continued)	There are few E85 stations.	Create studies to help identify issues. Board recently approved $4 million to support E85 stations in the Sacramento area and other locations.	A multi-stakeholder one-year demonstration is now underway, with a final report due in early 2008.
	Biodiesel specifications are not yet established.		The California Air Resources Board is funding $2 million in studies to determine biodiesel's multimedia impacts, emissions of NOx, particulate matter and greenhouse gases, and the range of biodiesel blends.
	We need to establish specifications for additional ethanol blends.	• Develop E10 specifications. • Consider revising the E85 specifications.	CARB proposes to have specifications completed in 2008.
	Using biodiesel may void existing vehicle warranties.	• The California Air Resources Board should work with engine and emission control technology manufacturers to voluntarily provide warranties for B20. • Performance results from testing programs will help to secure warranties.	Engine manufacturers already provide warranties for B2 and B5.

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5. Robert Sawyer, Chair California Air Resources Board (continued)	Performance standards have not been set for biofuels or biomass used in stationary sources.	We should establish a working group on the issue with the California Air Resources Board, Energy Commission, California Biomass Collaborative, local air districts, facility operators and others. Have recommendations by mid -2008.	

	Alternative fuels need incentives to create a level playing field and to make inroads into the marketplace.	• Approve 40 proposals by July 1, 2007.
		• Spend the funds by July 1, 2009.
			Working with California Energy Commission, the California Air Resources Board allocated $25 million for:
			• alternative-fuel infrastructure,
			• biofuels production,
			• consumer education,
			• research and testing, and vehicle programs like:
			  • plug-in hybrids,
			  • vehicle incentives,
			  • transit buses

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6. Ruth MacDougall, Sacramento Municipal Utility District	**Onsite dairy generation:** • Doesn't yet have cost-effective or proven low-emission engine technology that can meet central plant emission levels. • Lacks cost-effective or proven gas cleanup technology.	• Establish policies that credit projects with net benefit exchange between NOx and greenhouse gas emissions. (If 50% of California dairies used digesters, NOx savings would be about 98 tons, and greenhouse gas reductions would equal 4.4 million tons) • Fund Research, Development and Demonstration for technology improvements to reduce emissions. • Allow flexible permitting using proven technology that is available at reasonable cost while progress is being made for improvements.	The "Dairy Digester Incentive Program" funds digesters for local dairies.
	Co-digestion problems: • Elemental salts in manure and in food waste are retained during co-digestion. • Studies on salt management are just beginning and standards are not yet established.	• Support the Salinity Working Group to develop guidelines for salt application rates to farms. • Support research on manure management with co-digestion and desalinization.	

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6. Ruth MacDougall, Sacramento Municipal Utility District (continued)	**Problems with Municipal Solid Waste Conversion:** • Even after AB939, we dispose of 46 million tons per year in landfills.	• Correct the definition of "conversion technology" with new legislation that recognizes that some emissions will result from conversion. •	"Leftovers to Lights" program diverts food waste from landfills into local projects.
	• Regulations lag behind technology – gasification is still defined as zero oxygen or air and zero emissions to air or water.	• Support demonstrations of technology, possibly using fees from landfills. • Acknowledge that getting organics out of landfills will protect water and reduce fugitive greenhouse gas emissions.	
	SMUD Biomass Program in general: • Biomass projects are complex, requiring multiple permits for air, water and solid waste, with impacts on numerous agencies. • Biomass produces many external benefits that are not counted.	• Create mechanisms to recognize cross agency benefits. • Recognize that tradeoffs exist.	
7. Pacific Gas and Electric Company			

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7. Pacific Gas and Electric Company (continued)	For agriculture and forest waste: • Dispersed nature of biowaste makes it too costly to collect. • • Supplies may be seasonal.	• Covert biomass to portable and/or storable forms of energy. • Create and demonstrate new technology in scales small enough to be used locally.	Pyrolysis produces storable bio-oil and "biochar", a good soil amendment.
	Emission credits may be needed.	• Reduce costs of new technology by developing scale. • Develop low-emissions conversion options. • Fund the California Climate Action Registry to get greenhouse gas emission value from biosources. • Address the issue of open burning, which is prohibited soon by SB705.	PG&E has a three-year demonstration program, "Climate Smart," to allow customers to make electricity and natural gas use "climate neutral."
8. California Integrated Waste Management Board (CIWMB) *(Comments are from a docketed letter and from a docketed Powerpoint presentation [08A])*	Many locales are above the mandated 50% diversion levels for waste, but 43.5 million tons of material is still being landfilled yearly in California.	Provide a streamlined regulatory framework for siting, permitting, and regulating bio-energy facilities, including biogas.	

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8. California Integrated Waste Management Board (CIWMB) *(*continued)	**Our goal:** • To divert 10% of biomass residuals and 20% of the non-biomass organics by 2010. • To divert 40% of biomass residuals and 60% of the non-biomass organics by 2020.	Effect changes in statues to provide incentives – including tax incentives, loans and grants – for energy projects that would use material now being landfilled. Track and rate waste-to-bioenergy technologies to determine the most viable. Establish a permitting procedure for limited term research projects.	Existing private and government sources of incentive money: • Energy Foundation • U.S. Department of Energy • U.S. Department of Commerce • Small Business Administration • California Energy Commission • California Air Resources Board • CalPERS • South Coast Air Quality Management District Existing biofuel projects: • Frank Bowerman Landfill, Orange County • Kiefer Landfill, Sacramento County • Altamont Landfill, Alameda County
	Existing landfills are naturally off-gassing methane from decomposition., but it remains underutilized.	Technology needs to be developed to produce compressed natural gas, liquified natural gas and hydrogen from landfill gas.	California Integrated Waste Management Board has an inventory of 366 landfills that generate methane. California has only 63 existing landfill gas-to-electricity sites

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9. Chuck White, Director of Regulatory Affairs, WM Waste Management West	Less than 50% of the collected land fill gas is converted to energy because of high cost, regulatory barriers.	Recognize the benefits of capturing emissions.	
	• Historically, we've focused on non-methane organic compounds (NMOC) instead of methane. • We need more flexibility, more recognition of the possibilities of green house gas capture.	• The California Energy Commission should better estimate landfill emissions. • New legislation could increase control. • Increase regulatory desire to reduce emissions. • Change South Coast Air Quality Management District rule 1110.2 amendments which require all new equipment to meet natural gas emission standards. This rule could result in a return to flaring, with no emission capture benefits and no energy created.	
	Reasons for high costs: • Capture is more expensive than flaring. • Cost of offsets is prohibitive, usually just for NOx.		

	• Monitoring is expensive.		

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9. Chuck White, Director of Regulatory Affairs, WM Waste Management West	Grid interconnections are not always available to take the power generated.		
	Power revenue is low -- $0.05 per kilowatt hour.		
	When converting landfill gas to natural gas, it is difficult to separate contaminants and CO2. New technology is high risk and high cost.	Provide incentives.	
	Blue Fire cellulosic ethanol from landfills: • May not count against diversion goals. • Permitting process for facilities is often redundant. Requires financial aid as new processes are used.	• Provide diversion credits for feedstock used. • Simplify permitting. Provide funding.	The U.S. Department of Energy has awarded a $40 million grant for the El Sobrante Biorefinery Project now under way>

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10. Joint Comments before the CPUC, Rulemaking R-06-05-027, dated *OCT. 13, 2006* **Gregory Morris, Director Green Power Institute** **Steve Brink, Public Resources California Forestry Association** **Philip Reese, Chairman California Biomass Energy Alliance**	Bioenergy has high cost compared to other renewables in the Renewable Portfolio Standard program. Biomass offers valuable waste disposal, health and environmental benefits not captured in compensation. The best landfill sites and most accessible supplies of biomass are already taken – making additional biomass even more expensive.	The Energy Commission should order the inclusion of biomass's unique benefits "within the list of evaluation criteria in the RPS Procurement Plans, just as LSEs (load serving entities) must include environmental stewardship and water use as part of that consideration." But "simply providing a bid adder for biomass and biogas in the least-cost, best-fit process will not come close to achieving the objectives of the Executive Order."	Green Power Institute authored the 2000 "Biomass Energy Production in California: the Case for a Biomass Policy Initiative." California Biomass Collaborative was established. Bioenergy Interagency Working group was established Biomass Task Force of the Western Governors' Association Clean and Diversified Energy Initiative was established.
		Meeting goals of Executive Order S-06-06 "will require testimony and hearings, as well as briefs, comments and possibly workshops."	
	Current reporting protocols need to be changed to better measure RPS biomass targets.	"Establish a band within RPS specifically for biopower. Within this band, bioenergy generators would compete based on cost…"	
	Present federal tax credits of 1.0 cent per kWh are available only for biomass facilities in service before the end of 2007. These credits MAY expire.	Extend the credits.	

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11. Joint Comments before the CPUC, Rulemaking R-06-05-027, dated *NOV. 3, 2006* **Gregory Morris, Director Green Power Institute** **Steve Brink, Public Resources California Forestry Association** **Philip Reese, Chairman California Biomass Energy Alliance**	PG&E, San Diego Gas and Electric and Southern California Edison all oppose the biomass targets in Executive Order S-06-06 on grounds of "resource neutrality." Energy Service Providers and Community Choice Aggregators claim the targets don't apply to them.	Accept that biomass, like solar, gets incentives to account for its non-market benefits. Apply goals statewide to all Load Serving Entities.	
12 Joseph Langenberg Fresno, CA	The biomass industry has difficulty attracting financing, since the fuel source is viewed as "waste."	Make financing available from state-controlled institutions like the California Pollution Control Financing Authority, the California Economic Development Bank, the California Infrastructure and Economic Development Bank Authority, or others. This would be a European Community model.	
	The non-market value of biomass is not counted, and its cost is unfairly pegged to natural gas-fired plants	• Pay for the added benefit of biomass. "There is no free lunch."	

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12 Joseph Langenberg **Fresno, California** (continued)		• Recognize that biomass creates rural jobs; it's more labor intensive than natural gas, but that can be good for rural economies. • Recognize that biomass is "on-demand power," unlike wind or solar.	
13. Kevin Best **Chief Executive Officer** **Real Energy, LLC** **Yountville, CA** *(Company develops, owns and operates small, clean onsite generation systems)*	"Can small scale [distributed generation] be mass produced with minimal customization and achieve the price /performance demands of Wall Street?" Unlike Europe, North America has no quality standards or monitoring protocols for biogas injection, As a result, North America has 200 digesters, but no biogas injection.	Standardize equipment as Dell did with computers to bring the price down Set standards, monitoring protocols, expand regulatory and technology transfers with Europe. Follow their example.	
	Anaerobic Digestion is considered composting, not energy production and is not included in the Exemptions/ Exclusions. The feedstock is labeled waste.	Create clear definitions through legislation. Develop SWOT (Strengths Weaknesses Opportunities Threats) teams to analyze energy crops, salit loading, microgrids and codigestion.	

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13. Kevin Best, **Real Energy** (continued)	For air quality and greenhouse gas emissions, distributed generation gets no credit for biogas fuel from pipelines. Credit should also be given for distributed generation that uses waste heat.	To encourage pipeline injection, set up greenhouse gas emissions credits. Allow for waste heat credits.	
	Utilities are not eager to provide connections for either gas or electricity.		
	The Self Generation Incentive Program will eliminate biogas combustion payments in 2007.	Extend credits.	
	Getting investment dollars is difficult without clear regulatory rules to mitigate the risks. Technology is still evolving in a new industry and needs to be proven to investors before they accept it.	Establish a Business Energy Tax Credit and Sale Option like Oregon has. Consider Industrial Development Bonds like Oregon does.	"California public/private cooperation is slowly creating a profitable and prolific biogas industry."
14. William Reed **Vice President, Development** **Sempera Energy** **San Diego, California**	To get credit for generating electricity from biogas, the power plant must now be new or located with the gas-producing facility.	Renewable energy credits should be provided to projects either producing biogas OR to electric generating plants contacting for that gas on a "fuel-equivalents' basis, regardless of where the power plant is located.	PG&E recently executed a 10-year contract with BioEnergy to use biogas in its Humboldt Bay power plant.

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14. William Reed **Vice President, Development** **Sempera Energy** **San Diego, CA** (continued)	Some biogas generators are located in areas remote from electricity interconnects, or in non-attainment areas where a power plant would have difficulty getting a permit.	Giving renewable credits for a distant plant using biogas from the pipeline system encourages biogas production. It also gives large-scale generators reasons to seek supplies of biofuels for their planned or existing projects.	The fuel-equivalents approach taken by the California Public Utilities Commission and Energy Commission embeds an explicit environmental attribute into biogas that can be sold to existing generators who then 'convert' the biogas into renewable energy, no matter where the plants are located.
	Distributed generation units like those of Real Energy serve microgrids, usually in urban load centers, far from biogas production facilities	The fuel equivalent concept leverages several layers of incentives, improving the economics of projects and encouraging investment.	This is wholly consistent with the recent recommendations of the California Climate Action Registry regarding farm biogas.
		The Bioenergy Working Group should "support the CPUC and CEC in facilitating the economic arrangements that would encourage the wholesale use of biogas as a power plant fuel."	
		CEC should amend its Renewable Energy Guidebook to qualify any generator purchasing biofuels as a hybrid renewable energy producer on a fuels equivalents approach.	

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14. William Reed **Sempera Energy** (continued)		The Bioenergy Working Group should develop and adopt guidelines to identify and certify biogas types, producers and sources as a renewable fuel. The Bioenergy Working Group, CEC and CPUC should allow fuel producers and generators to leverage all available programs and incentives to encourage projects.	
15. Allen Dusault, **Program Director** **Sustainable Agriculture** **San Francisco, California**	California's approval and enforcement process by air, water, and solid waste agencies can act to discourage or prevent installation of new facilities. Coordination is needed or we will inhibit or prevent innovative technology from being put into place.	Each agency involved should be required to host a Web site where the regulated community can detail specific barriers to gaining approval for environmentally beneficial projects. Content and editing would be left to the regulated community. Agency performance is tied to how well they overcome those identified barriers. CalEPA needs to direct the agencies under its umbrella hat "a regulatory standard is not the same as a public health standard." For example, a	

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15. Allen Dusault, Sustainable Agriculture (continued)		project that decreases existing water or air pollution by 1,000 units while increasing one compound like NOx by 20 units now would be turned down under present law. We need to look at the whole picture, upstream and downstream, and considers environmental tradeoffs.	
	The unintended consequences of merely continuing existing practices are not being evaluated. For example, a farmer who now piles manure 20 feet high with no cover or pad has little or no regulatory oversight, but setting up a manure composting facility can trigger rigorous air district or California Integrated Waste Management Board scrutiny.	Each regulatory agency should be required to produce a report annually showing the unintended consequences of existing or proposed policies and practices. The report should detail the adverse effects on the environment for projects that don't move forward because of agency action (or inaction). It should identify what the agency is doing to make policy changes that would allow beneficial projects to move ahead in a timely manner.	

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15. Allen Dusault, Sustainable Agriculture (continued)		Annual incentives should be given to staff who find solutions that both protect the public health and allow environmentally advantageous projects to go forward.	
16. Manuel Alvarez Manager, Regulatory Policy and Affairs Southern California Edison	Small biomass plants haven't been able to sell electricity to Southern California Edison because of size restrictions or a complicated, time-consuming and expensive application process,	*(Implied)* If SCE's standardized contracts work to encourage biomass, they might be adopted statewide.	As of May 14, 2007, SCE is offering standardized contracts for bioenergy plants 20 MW or less that have California Energy Commission certification. The offer is good until Dec. 31, 2007 or until 250megawatts of power has been signed. The term of the contract can be for 10, 15 or 20 years.